

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1 – 5. (cancelled)

6. (currently amended) A plasma-enhanced method of processing each of a plurality of substrates, said method comprising:

pre-creating a process atmosphere in a processing chamber of a plasma processing apparatus, the atmosphere being the same as one in which the substrates will be processed;

subsequently supplying the substrates in sequence into the chamber;

processing a batch of the substrates, said processing comprising spraying a process gas into the chamber and towards substrates disposed in the chamber, and exciting the process gas using RF power to convert the process gas into plasma, whereby the plasma is deposited on the substrates and a portion of the plasma processing apparatus within said chamber;

discharging the batch of substrates from the chamber;

cleaning the inside of the chamber once all of the wafers in the chamber have been unloaded from the chamber to remove deposits from said portion of the plasma processing apparatus, said cleaning comprising using a cleaning gas which is different than the process gas and heating the chamber; and

after the chamber has been cleaned, and before any more substrates are loaded into the chamber, supplying the process gas into the chamber without exciting the process gas with RF power so as to reduce the temperature prevailing inside the chamber without converting the process gas into plasma,

wherein the substrates are processed at a given deposition temperature within the chamber, and wherein the process gas is supplied into the chamber, without exciting the process gas with RF power, for a sufficient time so as to reduce the temperature prevailing inside the chamber to the deposition temperature.

7. (original) The method of claim 6, wherein said spraying a process gas into the chamber and onto the substrates disposed in the chamber comprises spraying the process gas through a shower head, and said supplying a gas into the chamber comprises spraying gas into the chamber through said showerhead.

8. (original) The method of claim 6, wherein the process gas comprises TEOS gas.

9. (cancelled)

10. (currently amended) The method of claim 6, wherein the cleaning of the inside of the chamber is performed by supplying ~~[[a]]~~ the cleaning gas into the chamber, and exciting the cleaning gas using RF power to convert the cleaning gas to plasma.

11. (original) The method of claim 10, wherein the cleaning gas comprises oxygen gas and C₂F₆ gas.

12. (currently amended) The method of claim 8, wherein the cleaning of the inside of the chamber is performed by supplying ~~[[a]]~~ the cleaning gas into the chamber, and exciting the cleaning gas using RF power to convert the cleaning gas to plasma.

13. (original) The method of claim 10, wherein the cleaning gas comprises oxygen gas and C₂F₆ gas.

14. (original) The method of claim 6, and further comprising subsequently processing another batch of substrates in the chamber.

15. (cancelled)